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UNIFIED MASS-TRANSPORTATION  
SYSTEM FOR NEW YORK

By William Reid

CITY PLANNING DIVISION

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# AMERICAN SOCIETY OF CIVIL ENGINEERS

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## PAPERS

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### UNIFIED MASS-TRANSPORTATION SYSTEM FOR NEW YORK

BY WILLIAM REID<sup>1</sup>

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#### SYNOPSIS

An adjustment in transportation philosophy, as applied to commuters in a metropolitan area, is proposed in this paper. Using the metropolitan area of Greater New York City as a "laboratory specimen," the author maintains that rail lines should most logically be used for mass transportation to the heart of the area, with feeder bus lines and private cars serving the rail-loading points.

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#### INTRODUCTION

Despite the large population growth in the metropolitan suburban areas of New York, N. Y., and despite the appalling highway congestion, no public official or public body has taken effective action to bring into being a modern, unified mass-transportation system for people residing within that great metropolitan area. As a consequence, more and more people are resorting to the use of automobiles and buses, and they probably will continue to do so in increasing numbers until proper and convenient mass-transportation facilities are provided.

The New York metropolitan region contains industry and business of every kind and description. It is made up of about 14,000,000 people, 7,900,000 of whom live within the city and the remainder in the surrounding cities or suburban areas.

Years ago, New York City recognized that a basic problem was one of moving people—all the people, not alone the ones who then rode in horse and buggy equipment and, later, in automobiles and buses—and so constructed a great transit system which, however, was limited to the areas within the city.

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NOTE.—Written comments are invited for publication; the last discussion should be submitted by August 1, 1953.

<sup>1</sup> President, Hudson & Manhattan Railroad Co., New York, N. Y.

A METROPOLITAN AREA-WIDE PUBLIC AUTHORITY  
IS A PARAMOUNT NECESSITY

State and city boundaries must be ignored when considering the transportation needs of the population in this area. The real need is the creation of a comprehensive, modern system for the entire region. No local governmental body alone can cope with the overall need for such a system. Only a combination of the several states, working in unison, can bring about a solution. A metropolitan area-wide public body is a "must." It should do what needs to be done to consolidate and modernize existing services; and it should coordinate all private and public transportation facilities, thereby benefitting by the efficiency of such unified operation.

TRANSPORTATION ON RUBBER REACHING SATURATION POINT

The writer agrees wholeheartedly with a statement<sup>2</sup> made in 1951 that

"\*\*\* the problem involves more than one railroad, one city or one state. What is needed is a broad, regional approach toward giving fast and comfortable transportation to all the millions in the metropolitan area."

The entire area has now come to the crossroads so far as transportation on rubber is concerned. In 1950, 6,000,000 cars were sold in the United States, and as many more were sold in 1951. It seems far too often as if these 12,000,000 cars were all sold for use in and around New York!

Any one, for example, who attends the World Series baseball games has discovered that the subway is the quickest way to reach the ball parks, and almost everywhere else in New York City for that matter. All the highways that money can build will not provide adequate mass-transportation facilities. There are "through" traffic highways and parkways, one-way streets, a parking ban on some streets—although not nearly enough—and many traffic controls and regulations have been introduced. Nevertheless, traffic congestion continues to increase because more and more cars are pouring into the city, over highway facilities, faster than such facilities can be built.

There is parking on hundreds of miles of city streets 24 hr each day, much of it double parking. Under these conditions, business deliveries choke the streets, and buses and taxis are continually being delayed. Thus, the person who operates an automobile but refuses to—or cannot afford to—use a parking lot, is favored over the vast majority who must depend upon public vehicles for commuting. Thousands of these parked cars come from sections outside the city via the various subsidized facilities.

It is known that the streets were not built as substitutes for parking lots and garages, and it is generally admitted that some way must be found to dislodge all-day parkers from the city streets. The solution to the traffic problem is to remove parked automobiles from the streets, not to build more facilities for more cars and hence increase the congestion. In the writer's opinion, the most effective method is to construct the type of modern mass-transportation system that would induce people to ride to work by rail instead of by automobile.

<sup>2</sup> "Railroads and Rubber," *The New York Herald-Tribune*, New York, N. Y., October 10, 1951 (an editorial).

## NEED FOR A UNIFIED SYSTEM LONG RECOGNIZED

Long ago, the Regional Plan Association recognized the need for a unified system but, for one reason or another, only transportation on rubber has been considered and has been furnished with the latest facilities—at the taxpayer's expense. The value of these facilities will soon be greatly reduced because of sticky, molasses-like progress on highways due to the rapid increase in vehicular traffic.

In 1920, by amendment of the original 1887 Act to Regulate Commerce, Congress directed the Interstate Commerce Commission to prepare and adopt, as soon as practicable, a plan for the consolidation of the railway properties of the continental United States into a limited number of systems. No authority, however, was given the commission to compel the railroad consolidation recommended by it in 1921, 1929, and 1932, and the railroads themselves have continued to resist any program for unification of properties which would have reduced their individual operating expenses. However, if only the proper public officials will take hold of the problem, the writer believes that the necessary legislation could be obtained to make possible the consolidation of essential existing facilities, so that this desperately needed unified mass-transportation system for all the people in the New York metropolitan area may become a reality.

## COORDINATION OF RAIL AND BUS SERVICE

Although it is recognized that both rail and bus services each have certain obvious advantages over the other, the public interest would best be served by preserving the inherent advantages of both types of service. This objective, of course, is a stated policy of the Transportation Act.

As a result of the pressure of population growth, there has been an intensive suburban development in recent years which has had the effect of locating commuters away from the immediate vicinity of railroad terminals and stations. Slowly, but inevitably, the efficient and economical rail commutation facilities have been disappearing under the burden of increasing costs and motor vehicle diversion. Any further development of the pattern of commuter traffic which does not encourage the coordination of feeder bus lines with railroad commutation service will continue to affect the railroads' financial condition adversely, with a resultant deterioration of service.

Because of this trend, the Hudson & Manhattan Railroad Company petitioned the Interstate Commerce Commission in 1951 to initiate, on its own motion, an investigation of commutation services in the New York metropolitan area for the purpose of determining the respective place of rail, rail-bus, and all-bus service in the future improvement and development of such commutation services, and to invite the public authorities of the states of New York and New Jersey, and the officials of the municipalities affected, to participate in such investigation and determination. The commission also has had requests from other areas with similar commuter problems, but has not yet ordered such investigation. A study could well result in the establishment of principles that would be applicable to conditions in other sections of the United States as well.

### GREATER USE OF RAILS A SOLUTION TO TRAFFIC CONGESTION PROBLEM

In the suburban areas, the emphasis in the past has been placed on attempts to solve the traffic problem without proper regard for the main objective of transporting people in mass. Expressways, tunnels, and bridges will not solve the traffic congestion problem. They have made it worse in many sections. The answer lies in the provision of a modern, unified mass-rapid-transit system of large passenger-carrying capacity operating wherever required, in order to bring people into and out of the city quickly and at a fare they can afford to pay.

Because of the high-density morning and evening peak-period use of rolling stock, and competition from automobiles and buses operating on public-financed freeways, bridges, and tunnels, rapid-transit commuter services are rarely self-sustaining; and, because of constantly increasing costs, the financial condition of the forgotten and forsaken commuter railroads become worse and worse, resulting in progressively poorer equipment and service.

In 1951, a statement<sup>3</sup> appeared that

"It is not hard to see that ever-increasing fares for public transit and railroad travel will encourage greater use of the automobile (and many drivers do not reckon the dollar cost of this use), and that this will increase traffic congestion, and multiply our street and parking problems, at public expense."

This should prove—if it need be—that rail-commuter services are practically indispensable if large communities are to be kept from choking to death from automotive traffic congestion.

Strange as it may seem, the annual trans-Hudson river passenger traffic into and out of New York City has not increased in period since 1932 but has shifted from rail to rubber as the number of cars has increased and as new highway facilities have been built. In 1925, there were 1,635,337 vehicles registered in New York State, and 579,978 in New Jersey. In 1950, New York had 3,856,270 and New Jersey 1,599,003. All this evidence leads to the inevitable conclusion that commuter railroads must be acknowledged to be a public problem, and that steps must be taken by the proper public officials to introduce corrective measures by the integration of railroads and rapid-transit facilities in the New York metropolitan area.

### INTEGRATION OF RAILROADS AND RAPID-TRANSIT FACILITIES

In a substantial degree, the present railroad setup in the New York metropolitan area is a large economic waste because of the duplication of routes, non-capacity usage, and dormant and abandoned railroads—particularly in the New Jersey sector. Seven major factors must be analyzed and activated to bring into being this comprehensive metropolitan rapid-transit service: (1) The elimination of duplicated services, (2) the acquisition of rights of way, (3) the allocation of freight service, (4) the allocation, and determination of the construction costs, of tunnels for railroad and vehicular traffic, (5) the

<sup>3</sup> "Public Transit," *The New York Times*, New York, N. Y., October 15, 1951 (an editorial).



function of bus facilities, (6) the coordinated operation setup and (7) the financial structure.

*1. Eliminating Duplication of Services.*—There are all kinds of needless duplication of competition between railroads as well as between railroads and buses. For instance, the Pennsylvania Railroad and the Hudson & Manhattan Railroad use the same tracks from Newark, N. J., to a point east of Journal Square Station, Jersey City, N. J. Pennsylvania Railroad passengers destined for downtown New York transfer to Hudson Tubes trains at Exchange Place Station, Jersey City. There is no reason why these Pennsylvania passengers could not change to Hudson & Manhattan trains at Newark and thus make it unnecessary for the Pennsylvania Railroad to maintain its Jersey City station, because some time ago it abandoned its ferry service between Jersey City and New York.

Passenger service to Asbury Park, N. J., and other New Jersey shore points, is furnished jointly from a point near Perth Amboy, N. J., by both the Pennsylvania and the Jersey Central railroads. The Pennsylvania Railroad carries passengers via Newark whereas the Jersey Central Railroad takes them to its Jersey City terminal where they board ferries running to Liberty Street, New York City.

There seems to be useless duplication in the Lackawanna Railroad and Erie Railroad, together with bus lines, providing service to the same suburban communities, thereby "cutting each other's throat" in the process.

The railroads that continue to run ferries do so at a very substantial loss. At a hearing before the New Jersey Board of Public Utility Commissioners, in 1951, testimony was presented to show that the Lackawanna, Erie, and West Shore railroads lose approximately \$2,500,000 each year on ferry operations.

A number of bus lines run from the northern New Jersey suburbs to the New York City bus terminal of the Port of New York Authority, through the Lincoln and Holland tunnels, and several bus companies carry passengers from Newark, as well as from Jersey City, into other parts of New York City through the same facilities, all competing with the railroads.

There are hundreds of buses daily feeding thousands of passengers into the subway lines at Jamaica, Flushing, and elsewhere on Long Island, which service in many instances parallels the Long Island Railroad, while the latter in substantial part is far from being used to capacity. It would not be an expensive or a difficult engineering feat to make connections at or near Jamaica, N. Y., between the subway lines and the Long Island Railroad lines, thereby eliminating many long bus rides.

It is a known fact that having so many buses on the roads in direct competition with the railroads helps neither the congested highway condition nor the railroads' financial plight.

*2. The Acquisition of Rights of Way.*—A study should determine the railroad rights of way that should be eliminated in commuter service and the ones that should be retained. The retained rights of way should be part of a joint system and, in most cases, would have to be leased from the railroads owning

such rights of way, as the railroads' bond indenture provisions generally make it impossible to do anything else but lease them.

3. *Allocation of Freight Service.*—The Long Island Railroad obtains about 28% of its revenues from freight and 67% from passenger service. Studies have been made in the past suggesting that these services be separated and the freight handled by one organization and passengers by another. The reason given for this proposed separation, at the time, was that the Long Island freight traffic was then tied in with the Pennsylvania Railroad. Whether such a division in an over-all metropolitan rapid-transit plan would be advisable so far as the Long Island Railroad is concerned could be determined only after a tentative plan was set up and studied.

In New Jersey, on the other hand, although it would undoubtedly be wise to carry freight and commuters by a joint system (because this would reduce the cost of freight handling) it would probably be impossible to persuade the railroads to agree to such an arrangement. They seem willing to abandon their commuter services but wish to retain their respective freight business.

4. *The Allocation of Tunnels for Railroad and Vehicular Traffic.*—A tunnel under the Hudson River reaching New York somewhere between Fiftieth Street and Sixtieth Street has been advocated by some who have studied the needs of the large number of New Jersey people who work in uptown New York. The New York City Board of Transportation has proposed that a tunnel be constructed under the East River reaching New York somewhere between Seventieth and Eightieth Street where it would tie in with the proposed Second Avenue Subway, so as to provide better service for people coming in from Long Island.

The cost of tunnels for railroad cars would be substantially greater than for subway cars. Before a decision is reached with respect to the size of a tunnel, however, a determination should be made as to whether passengers alone are to be carried or whether freight also would be carried. It would also be decided whether in New Jersey a transfer center should be established for unloading freight and, no doubt, passengers, before the correct size tunnel could be determined. A tunnel 23 ft in diameter would be required for the ordinary railroad car as compared with a diameter of 18.5 ft for subway cars. The cost of the larger tunnel would be approximately 50% greater than the smaller one for subway cars.

5. *The Role of Buses in a Unified System.*—One of the problems to be considered is the sound and practicable integration of buses into a metropolitan transit system so that their value and desirability would be used to the best advantage of both the public and the bus-operating companies.

Some people argue that mass-transportation needs can be met by building more and bigger highways and tunnels to accommodate the ever-increasing number of buses and automobiles. Also, it is natural that the bus companies should want to take whatever advantage they can of the new and greater facilities provided by public authorities at no investment outlay by the bus companies. This is shown by the steadily growing number of bus applications to bring more local bus lines into the center of New York City. Some of these applications are for extensions from purely local, neighborhood service to interstate



service operating for miles to and from the Port Authority bus terminal. This expansion of commuter bus service poses several major problems so far as the public is concerned: It reduces transportation efficiency; it reduces the efficient use of existing facilities which are fundamentally better able to transport large numbers of passengers quickly; and, it brings about greater and greater demands on the public purse for more and more facilities, thereby increasing traffic congestion rather than reducing it.

Those who say that buses alone can handle mass transportation make sense only when they refer to small cities, but in great metropolitan centers the bus is inadequate. It simply is not possible to transport so many persons as far, as quickly, and as efficiently by bus as it is by train. A 10-car subway train, during rush hours, carries 1,600 passengers and is operated by 3 men. It would require twenty-five buses, each carrying 64 passengers, to transport 1,600 people, and each bus would require 1 operator. So far as speed is concerned, the result is just another bus in the general congestion of vehicles.

Rail rapid transit in major metropolitan communities is indispensable. However, a well-integrated system of transportation should have buses operating as feeder lines serving the rapid-transit stations.

6. *The Organization of a Unified System.*—Railroads in the New York metropolitan area are supervised by the Interstate Commerce Commission if they operate in both New York and New Jersey; by the Public Service Commission with respect to New York operations; and by the Board of Public Utility Commissioners for New Jersey operations. A study should be made relative to this distribution of authority, and the necessary legislation should be enacted to eliminate supervision by these multiple commissions if found advisable and in the public interest.

The Port Authority was given the right to purchase, construct, lease, and operate any terminal or transportation facility within its boundaries, which now comprise a radius of about 25 miles from City Hall, New York. These boundaries may be changed if necessary by joint action of the New York and New Jersey legislatures to enlarge the present boundary lines. The Port Authority is now practically tax exempt. It has the power to fix rates or charges for the services it provides. It is free from supervision by any state or federal governmental agency. Thus, there would be no problem, rate-wise or tax-wise, if it were to take over the operation of a metropolitan mass-transportation system or, if some other authority were given similar powers. Thus, the supervision by a multiplicity of governmental agencies would not exist.

The drafters of the law giving the Port Authority full power and use of all modes of transportation for the carriage of persons or property intended that transportation facilities within its boundaries be provided for all the people, not for a favored group. However, for many years the Port Authority has been confining its efforts to providing facilities for those who travel by bus and automobile and has avoided the responsibility of providing modern railroad facilities for the vast majority of people in this area.

7. *The Financial Structure.*—It would greatly simplify the problem if the Port Authority brought into being and operated a metropolitan mass-

transportation system because of their backlog of credit. The low interest on their tax-exempt bonds, together with exemption from real estate and income taxes, makes low operating costs possible. This simplifies the fare problem compared with the present railroad tariffs. Since the states of New York and New Jersey, and the commuters who live therein, would be the beneficiaries of such a system, any operating deficits should be financed by them. However, if such a complete overall system were established, any deficiency is very unlikely, if the experience of existing subsidized facilities now provided for automobiles and buses is any criterion.

#### SUMMARY

The foregoing is a succinct statement of an acute problem. It offers a broad definition of the problem and a practical outline for a possible solution.

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